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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/867,323 | 05/29/2001 | Jagdish C. Tandon | D/A0155 | 6011 |

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Rochester, NY 14644

EXAMINER

SAFAIPOUR, HOUSHANG

ART UNIT PAPER NUMBER

2622

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/867,323 | TANDON ET AL. | |
| | Examiner | Art Unit | |
| | Houshang Safaipoor | 2622 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 11-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 11-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>09/22/04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's amendment filed on June 24, 2004, has been entered and made of record.

Claims 8-10 have been cancelled and new claims 18-22 have been added.

In view of the amendment, applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4-7, 11-14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Usui (U.S. Patent No. 5,055,921) and further in view of Suggs (U.S. Patent No. 6,009,214).

Regarding claim 1, Usui discloses an imaging apparatus comprising: a first linear array of photosites, arranged in an array direction, and having a first spatial resolution along the array direction; a second linear array of photosites, having a second spatial resolution, along the array direction; and means for moving an original image relative to the linear arrays of photosites in a process direction perpendicular to the array direction (figs. 4 and 5, col. 2, lines 50-66). Usui does not explicitly disclose three photosites in the first linear array corresponding to each one photosites in the second linear array. Suggs discloses a multi resolution color image sensing apparatus with plurality of parallel linear

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sensors with each successive array having a greater resolution than the previous array (Abstract, figs. 4(a)-4(d) and col. 4, line 39 through col. 5 line 28). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to combine Suggs' apparatus with that of Usui to produce higher resolution image.

Regarding claim 2, Usui discloses the apparatus of claim 1, the first linear array of photosites having a first color filtering arrangement; and the second linear array of photosites having a second color filtering arrangement, different from the first color filtering arrangement (col. 2, lines 62-68).

Regarding claim 4, Usui discloses the apparatus of claim 2, the first color filtering arrangement being green, and the second color filtering arrangement including a primary color (col. 2, lines 62-68).

Regarding claim 5, Usui discloses the apparatus of claim 1, the first linear array of photosites having an effective length n along a process direction perpendicular to the array direction, and the second linear array of photosites having an effective length along the process direction equal to n . Regarding the size of the photosites, Usui discloses different embodiments that the width of the color elements of the sensor is increased, however, he further discloses the it is possible to vary the widths of at least two of the color elements of the sensor (col. 7, lines 1-65). Therefore with this disclosure the size of the photosites can be changed to achieve the desired resolution.

Regarding claims 6, 7 and 11, the argument analogous to those presented for claim 5 are applicable to claims 6, 7 and 11.

Regarding claim 12, Usui discloses the apparatus of claim 1, further comprising a

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third linear array of photosites, the third linear array of photosites having a spatial resolution along the array direction equal to the spatial resolution of the second linear array of photosites (col. 2, lines 50-66).

Regarding claim 13, Usui discloses the apparatus of claim 12, the third linear array of photosites having a third color filtering arrangement, different from the second color filtering arrangement (col. 2, lines 50-66).

Regarding claim 14, Usui discloses the apparatus of claim 13, the first color filtering arrangement being green, the second color filtering arrangement being a first non-green primary color, the third color filtering arrangement being a second non-green primary color different from the first non-green primary color (col. 2, lines 50-66).

Regarding claim 16, Usui discloses the apparatus of claim 1, wherein the first linear array is associated with a first CCD, and the second linear array is associated with a second CCD (fig. 5, three-line CCD).

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Usui (U.S. Patent No. 5,055,921).

Regarding claim 17, the use of a single transfer circuit connected to an output line is well known and routinely implemented in the art. Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to utilize a single transfer unit in Usui's apparatus.

Claims 3 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Usui (U.S. Patent No. 5,055,921) and in view of Suggs (U.S. Patent No. 6,009,214) and further in view of Spears (U.S. Patent Application Publication No. 2002/0093694).

Regarding claims 3, 15 and 19 neither Usui nor Suggs disclose white filtering

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arrangement. Spears discloses such filtering in the structure of his photosensor assembly (fig. 5). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to utilize Spears arrangement in Usui's and Suggs combination apparatus to achieve desired resolution.

Regarding claim 18, the argument analogous to those presented for claim 1 are applicable to claim 18.

Regarding claims 20, 21 and 22 the argument analogous to those presented for claims 7, 4 and 1 are applicable to claims 20, 21 and 22 respectively.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

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advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Houshang Safaipoor whose telephone number is (703)306-4037. The examiner can normally be reached on Mon.-Thurs. from 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L Coles, Sr. can be reached on (703)305-4712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Houshang Safaipoor
Patent Examiner
Art Unit 2622
March 19, 2004


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